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E2A E18U

F2H 7B



## (54) IMPROVED PAPER FASTENER

(71) I, ERIC SMITH BOOCOCK a British Subject, of 2 St Margaret's Avenue, Micklethorpe, Methley, Leeds, in the County of York, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to a fastener for holding pre-punched sheets or booklets firmly together. The fastener is comprised of two tags or end pieces each formed with a central loop or hole and linked by a band of elastically extensible material, hereinafter referred to as EEM, which passes through the said loops or holes to form an elastically extensible paper fastener.

The tags or end pieces may be comprised of metal or plastics and fall into two broad categories, the 'bar' type and the 'disc' type.

The bar type tag or end piece may have a round cross section and be formed with a running loop as shown in Fig. A of the accompanying drawings or a round cross section and be formed with an open loop as shown in Fig. B, or a thin rectangular cross section and be formed with an open loop as shown in Fig. C. The bar type tag or end piece as shown in Fig. A, Fig. B and Fig. C may be used at one or both ends and may be threaded on to a continuous band of EEM without breaking its continuity. It will pass through the pre-punched holes longitudinally but not when placed transversely across the holes.

The disc type end piece has a central hole counterbored or recessed on the out side to receive the knot which may fasten the ends of the EEM together and may be used at one end only where it prevents the EEM from being pulled out of the pre-punched holes in the sheets or booklets, and is shaped as shown in Fig D, Fig E or Fig F of the accompanying drawings.

The EEM may be continuous or have linear form with its ends joined.

In continuous form the EEM may consist of a single strand as shown in Fig G or it may have a plurality of strands as shown in Fig H.

[Price 25p]

In linear form the EEM may consist of a single strand or a plurality of strands which may remain independent or be woven or twisted together. The EEM may have its ends joined by a small metal band which is deformed to grip the overlapping ends. Two bar type end pieces may then be threaded on to complete a paper fastener as shown in Fig. 1.

The EEM in linear form may have its ends joined by a knot and the looped end pulled through the central hole in a disc type end piece until the knot rests in the recess where it may or may not be fastened by adhesive. A bar type end piece may then be threaded on to complete a fastener as shown in Fig. J.

The EEM in linear form may also have both sides of the loop woven or twisted into a single cord and the ends knotted. The looped end may be pulled through a central hole in a disc type end piece until the knot rests in the recess and a bar type end piece may then be threaded on to complete a paper fastener as shown in Fig K.

The paper fastener may be manufactured in different lengths and one or more fasteners may be used through a series of matching holes along one edge of several sheets or booklets to form a means of binding which will allow the sheets or booklets to be opened flat with little likelihood of the paper being torn.

The tags or end pieces described with reference to Fig. A Fig. B and Fig. C of the accompanying drawings are also described in my Co-pending Application No. 35761/73. (Serial No. 1375448)

## WHAT I CLAIM IS:—

1. A paper fastener for holding firmly together pre-punched sheets or booklets, comprising two tags or end pieces each formed with a central loop or hole and linked together by a continuous band or closed loop of EEM (elastically extensible material) which passes through the said loops or holes in the tags or end pieces.

2. A paper fastener as claimed in claim 1

wherein the material of the tags or end pieces is metal.

3. A paper fastener as claimed in claim 1 wherein the material of the tags is plastics.

5 4. A paper fastener as claimed in claims 1, 2 or 3 wherein one of the tags or end pieces has an elongated form and is hereinafter referred to as the 'bar' type.

10 5. A paper fastener as claimed in claim 4 wherein one of the tags or end pieces has a round cross section and is formed with a running loop substantially as described herein with reference to Fig 4 of the accompanying drawings.

15 6. A paper fastener as claimed in claim 4 wherein one of the tags or end pieces has a round cross section and is formed with an open loop substantially as described herein with reference to Fig. B of the accompanying drawings.

20 7. A paper fastener as claimed in claim 4 wherein one of the tags or end pieces has a thin rectangular cross section and is formed with an open loop substantially as described herein with reference to Fig C of the accompanying drawings.

8. A paper fastener as claimed in any of claims 1 to 7 wherein both tags or end pieces are of the bar type.

30 9. A paper fastener as claimed in any of claims 1 to 7 wherein one end piece is a disc with a central hole counterbored or recessed on the outside to receive the knot in the EEM.

35 10. A paper fastener as claimed in claim 9 wherein one of the end pieces is substantially as described herein with reference to Fig.D of the accompanying drawings.

40 11. A paper fastener as claimed in claim 9 wherein one of the end pieces is substantially as described herein with reference to Fig. E of the accompanying drawings.

45 12. A paper fastener as claimed in claim 9 wherein one of the end pieces is substantially as described herein with reference to Fig. F of the accompanying drawings.

13. A paper fastener as claimed in claim 8 wherein the EEM is a single continuous strand forming a paper fastener substantially

as described herein with reference to Fig. G of the accompanying drawings.

14. A paper fastener as claimed in claim 8 wherein the EEM is a plurality of continuous strands substantially as described herein with reference to Fig. H of the accompanying drawings.

15. A paper fastener as claimed in any of claims 8 to 12 wherein the EEM is formed from a single linear strand.

16. A paper fastener as claimed in any of claims 8 to 12 wherein the EEM is from a plurality of linear strands.

17. A paper fastener as claimed in any of claims 8 to 12 wherein the EEM is formed from a plurality of linear strands which are woven together.

18. A paper fastener as claimed in any of claims 8 to 12 wherein the EEM is formed from a plurality of linear strands which are twisted together.

19. A paper fastener as claimed in any of claims 15 to 18 wherein a small metal band is deformed to grip the overlapping ends of the EEM substantially as described herein with reference to Fig. 1 of the accompanying drawings.

20. A paper fastener as claimed in any of claims 15 to 18 wherein the ends of the EEM are fastened together by a knot which is pulled into the recess of a disc type end piece and a bar type end piece is threaded on to the looped end of the EEM to complete the fastener.

21. A paper fastener as claimed in claim 20 wherein the two sides of the loop of EEM remain separated and not twisted together substantially as described herein with reference to Fig. J of the accompanying drawings.

22. A paper fastener as claimed in claim 20 wherein the two sides are twisted into a single cord substantially as described herein with reference to Fig. K of the accompanying drawings.

23. A paper fastener as claimed in claim 20 wherein the two sides of the loop are woven into a single cord.

E. S. BOOCOCK  
Applicant.

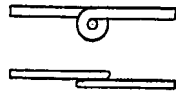


FIG A

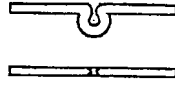


FIG B

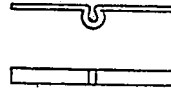
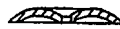


FIG C



SECTIONAL ELEV

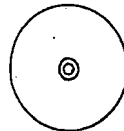
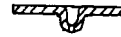


FIG D

PLAN

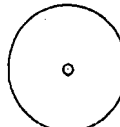


FIG E

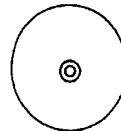


FIG F

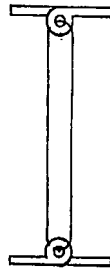


FIG G

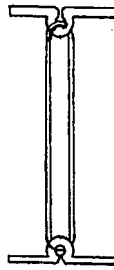


FIG H

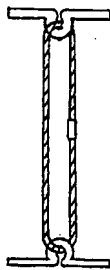


FIG I

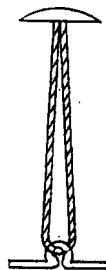


FIG J

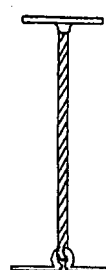


FIG K